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AUTHOR Wight, Albert R.

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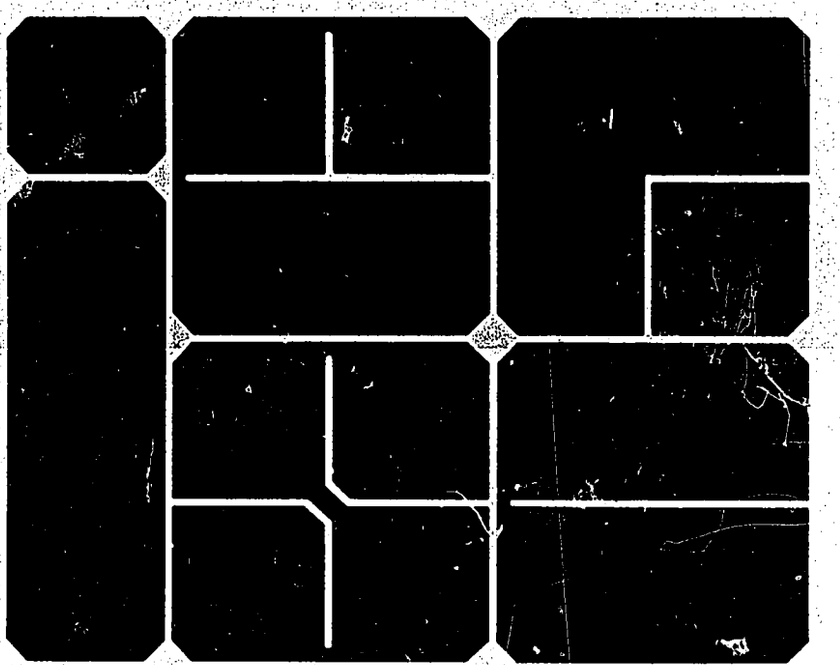
ABSTRACT

Some of the problems and arguments related to behavioral objectives are examined, and a modified approach to objectives and measurements that, it is hoped, will be acceptable to both behaviorists and humanists is suggested. The following reasons for opposition to behavioral objectives are explored: (1) meaningful objectives are often discarded because of difficulty in stating them as measurable outcomes; (2) there is confusion of the indicator with the objective; (3) emphasis is on the indicator rather than the goal; (4) there are restrictions on teacher strategy and measurement; (5) pre-determined tasks result in negative student attitude, and (6) measurements exclude self-evaluation and responsibility. An alternative program in which objectives and measurements are treated separately offers the following advantages: (1) objectives can be expanded and defined as necessary for clarification; (2) objectives relevant to student interest are more appealing; (3) measurements are quite likely to be more relevant and less aversive to students; (4) it is easier to see the relationship between the measurement and the objective; (5) objectives do not restrict the teacher or student in selection of learning strategies; (6) more flexibility is allowed in measurement; and (7) opportunities can be capitalized on more easily. (For related documents, see TM 002 183, 185-186.) (AL)



Interstate Educational Resource Service Center
710 East Second South Salt Lake City, Utah 84102

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Prepared by: Albert R. Wight

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A. R. Wight
Interstate Educational Resource Service Center
710 East Second South Street
Salt Lake City, Utah · 84102

It is unlikely that anyone in education will be able to avoid taking a position in respect to behavioral or measurable objectives. With requirements for behavioral objectives being written into accountability legislation, they certainly cannot be ignored. If persons opposing their use (and there are many) are to be heard, they will have to come up with more convincing arguments than those presented in numerous articles over the past few years. If they are to avoid being forced to use behavioral objectives, they may have to show another way to be accountable for educational outcomes.

The problem of accountability is thus central in the controversy over behavioral objectives and provides the behavioral objectivists with their strongest argument. The major purpose of behavioral objectives is to provide clarity of intent in education and precision in the measurement of outcomes. Although some humanistically oriented educators might disagree, it would be difficult to argue that this would not be of benefit to education.

But behavioral objectives have created many problems, and it would appear that there is considerable substance to many of the arguments against their use. The purpose of this paper is to examine some of the problems and arguments and to suggest a modified approach to objectives and measurement that hopefully will be acceptable to behaviorists and humanists alike.

A second aspect of the suggested approach involves a more active participation of the student in the entire process of establishing objectives and assessing performance. The argument for more participation would hold whether behavioral objectives are used or not. The use of behavioral objectives certainly does not preclude active participation of students. Objectives developed prior to student involvement should be considered provisional and subject to change with student input, unless it can be specified that certain objectives are required to qualify for a subsequent course, a particular job, etc.

PROBLEMS WITH BEHAVIORAL OBJECTIVES

A number of recent articles have discussed various reasons for the opposition to behavioral objectives (Eisner, 1968; Popham, 1968; Ebel, 1970; Cox, 1971; Miles & Robinson, 1971). A number of these reasons will be explored here.

Triviality

In spite of the arguments of the behavioral objectivists that it should not be so, behavioral objectives too often result in a focus on the trivial and mundane. It is not unusual to find important and meaningful objectives discarded because of the difficulty encountered in attempting to state them as behavioral, measurable outcomes.

But it is not only the person inexperienced in writing behavioral objectives who focuses on the trivial. Examine objectives prepared by the experts, and ask yourself how many you would consider personally meaningful and relevant, how many would be intrinsically rewarding, how many have meaning beyond the immediate and usually artificial test situation. If you find most of these unexciting, as you quite likely will, you can expect that students will, too.

Confusing the Indicator with the Objective

The problem of triviality and most other problems with behavioral objectives are a direct result of a means versus ends type confusion. Behavioral objectivists warn us of the dangers in confusing the strategy, the means of achieving the objective, with the end, the objective itself. But what they have failed to recognize is that they have confused the indicator, the means of determining whether the objective has been achieved, with the true objective.

Behavioral objectives contain both a goal component and a measurement component, but the goal component is too often deemphasized to the point that it is virtually non-existent. The behavioral objective becomes in fact a statement of a measurement to be taken sometime prior to the completion of the learning and program, under specified conditions, and with criteria for evaluation. Most so-called behavioral objectives are not really objectives, therefore. They are only indicators (samples of behavior or tests that serve as evidence) that the true objectives have been achieved. Calling them objectives can mislead the teacher and the student into believing that the sample of behavior (the indicator), from which it is inferred that learning has taken place, is the desired end result of the learning activity. We agree with Mager (1968, p. 11) that "learning is for the future," but behavioral objectives can easily result in a focus on the requirements of the present.

Here again, examine most any list of behavioral objectives (particularly those related to higher mental processes or affective outcomes) and ask yourself whether the goal component of the objective statement is really a clear statement of a goal one would want to achieve for the future, or rather a description of an indicator behavior. For example:

> The student is to be able to complete a 100-item multiple-choice examination on the subject of marine biology. The lower limit of acceptable performance will be 85 items answered correctly within an examination period of 90 minutes [Mager, 1962, p. 56].

> Students will exhibit favorable attitudes toward school in general and toward several dimensions of school (teachers, peer relationships, social structure and climate, school subjects) in their responses to the School Sentiment Index . . . [Instructional Objectives Exchange, 1970, p. 11].

> Given a common disposable object (e.g., paper sack, bottle, cardboard box, plastic container) and the designation of a consumer group (e.g., six- to ten-year-olds, college students, housewives), the student will describe in writing ideas for at least three original marketable products. Each of the three products must be previously unknown to the instructor and class, and be something the target group would be likely to buy, as judged by class vote [Miles and Robinson, 1971].

In the first example (Mager's), the learning objective is almost completely obscured, other than that it has something to do with marine biology. The student's objective here is quite clearly to pass an examination. How does this differ in any way from the traditional classroom where the instructor provides vague goals, if any, and some indication of what will be required to obtain a passing grade?

In the second example (from objectives edited and catalogued by Popham and his associates), it is unlikely that this would be a primary objective of a particular instructional sequence but rather a hoped-for outcome or by-product of the student's entire educational milieu. It is highly unlikely that a student would see a favorable attitude as his objective, but he very probably would like to experience the conditions toward which he could respond with favorable attitudes. To achieve this "objective" we would not develop an instructional sequence; we would change the system.

We could infer objectives in the third example, but we would have

to consult the person who wrote the objective to find out for sure what he was trying to achieve. Hopefully, some time would be spent explaining and clarifying the objective for the students or they might perceive this as a relatively meaningless activity. Even so, it is still likely to be perceived as a test more than as an objective the student would want to achieve, unless he had been involved in defining the objective. It should have more meaning if it were not perceived as a test but one of a series of activities to afford practice in using one's creative abilities or to develop a catalog of ideas for possible future use.

Gap Between the Indicator and the Goal

Behavioral objectives too often have not resulted in better objectives as much as in better measurement. But the measurement is not always clearly related to a meaningful future goal. With the focus on the indicators, it is easy to lose sight of the true objectives. Providing the student with a comprehensive set of behavioral objectives amounts to explaining in some detail the kinds of examinations he will be given. The indicators help him understand what he must do to satisfy the teacher or meet the requirements of the system, but unless special effort is made to relate the indicator (behavioral objective) to the true objective, performing the prescribed act or demonstrating the behavior may have little meaning for the student.

This gap between the indicator and the objective can only be overcome by special effort to achieve transfer. This effort would not be required, however, if objectives were written that had meaning in the personal life of the student beyond the classroom. Such objectives would have to include something other than a statement of a test performance.

Eiss and Harbeck (1969, p. 13) point out another problem. They say that:

> In the affective domain, this gap is often very wide, and a given behavior may indicate the attainment of any one of several objectives, depending upon the thinking and motives of the individual exhibiting the behavior. Another difficulty is the operant conditions that we have developed in our students. If they are aware of the behavior desired by the teacher, it will often be produced on demand--the behavior itself will become the goal and not an indication of the attainment of the goal.

Restrictions on Teaching Strategies

When objectives are written in measurement terms, the tendency is to teach (as well as learn) for the test (the indicator), not for the true objective. If the learning activities relate to the objectives, as they should, the use of behavioral objectives can restrict the teacher or learner in the selection of activities or predispose him toward certain activities as opposed to others. This is particularly true with a "properly written objective" where the outcome, conditions under which the behavior is to be exhibited, and criteria are clearly prescribed. The learning activity should prepare the student for the task and conditions stated in the behavioral objective, which may thus limit the alternatives available.

Restrictions on Measurement

A program based on behavioral objectives does not provide for other measurements than those prescribed in the objectives. Many opportunities for demonstration of learning or achievement might be presented by the learning activities, however, and these might present better evidence than the measurements specified in the behavioral objectives. Also, a frequent argument is that unstated outcomes are quite likely to be overlooked, unless deliberate effort is made to look for them. Of course, the behavioral objectivist might retort that the use of behavioral

objectives does not preclude other measurements for stated outcomes or recognition of unplanned outcomes. The implication when the objective and measurement are combined in one statement, however, is that there should be one measurement for each objective. The tendency is thus toward writing a behavioral objective for each intended outcome, which can and often does result in a book of behavioral objectives, and an obstacle course for the student. With a great many behavioral objectives to assess, little time or energy is left for assessment of unspecified outcomes.

Negative Outcomes

It can be psychologically discouraging to have every objective stated in terms of a task or test to be overcome rather than an aim or direction (something to be acquired or achieved), unless the learner has worked with the teacher in setting these tasks. This focus on a multitude of tasks imposed by the teacher can lower one's aspirations and reduce motivation. The objectives might be attained, but at the expense of exploration, divergent thinking, and positive attitudes toward learning.

The need to satisfy the person evaluating the test performance as opposed to being able to pursue one's own interests and evaluate one's own performance can and very probably does interfere with the development of self-esteem, self-confidence, and sense of control over one's own destiny. A frequent criticism of behavioral objectives suggests that undue emphasis on requirements to meet minimum performance standards can result in an orientation toward doing only what is necessary rather than what is possible, with a possible resulting life style of lower aims and standards.

Control Versus Freedom, or Behaviorists Versus the Humanists

Since behavioral objectives are a product of Behaviorism and thus in the pure sense are concerned only with observable behavior, they seldom use measurement that asks the student what he is thinking or feeling. His internal state must be inferred from his behavior. Some behavioral objectivists do not hold this extreme position, of course, but it does dominate the behavioral objectives movement and is stated quite explicitly by many authors. This lack of trust in the student is a major reason for the objections of humanistically oriented educators to the use of behavioral objectives.

In addition to promoting measurement that excludes self-observation and self-report, most guidelines for preparing behavioral objectives imply that someone other than the student should decide what his objectives should be and state the objectives for him. Popham (1968) defended this practice by saying that:

> Teachers generally have an idea of how they wish learners to behave, and they promote these goals with more or less efficiency. Society knows what it wants its young to become, perhaps not with the precision that we would desire, but certainly in general. And if the schools were allowing students to "democratically" deviate from societally-mandated goals, one can be sure that the institutions would cease to receive society's approbation and support.

This control orientation tends to permeate programs based on behavioral objectives, with a resulting focus on instruction rather than learning, deciding for the student rather than including him in the decisions, and deemphasizing or denying the value of his own inner experience and self-evaluation. Such an approach supports and perpetuates feelings and attitudes that one is not capable of self-evaluation and responsibility but must look to an outside source for direction and control.

AN ALTERNATIVE TO BEHAVIORAL OBJECTIVES

If these potential problems are recognized, they can be reduced to a considerable extent through special effort, particularly if students are involved in defining the objectives. But these problems are less likely to occur and can be overcome more easily if, in addition to student involvement, the goal and measurement components are treated separately and not combined in one statement. This does not mean that we have to give up the gains we have made with behavioral objectives (particularly in respect to measurement), but it should clear up the semantic confusion created when we call an indicator an objective, and should result in both improved objectives and measurement. If we treat the goal statement separately, we can define it and expand it as necessary for clarification, without reducing it to a possibly meaningless and aversive test performance. Treating the measurement component separately allows the selection of any number of indicators and any type of measurement most appropriate to provide the necessary evidence of achievement.

The Goal Statement

Although the principle of separation of goal and measurement components would apply with any type of objective (i.e., program, management, support, etc.), we are concerned here with learning outcomes. We agree with most behavioral objectivists that the goal should be stated in terms of learner performance or achievement. It should also be meaningful to the learner in terms of his interests, aims, ambitions, and perceived needs. This means that the initial goal should be stated in general terms that seem worthwhile to the learner. These are usually inner states rather than discrete, observable behaviors. It has proven useful to define goals and objectives in terms of:

1. What the student should (or would like to) be able to do by the end of the learning activity or course;

2. What he needs (or wants) to know, understand, or appreciate*; and

3. What characteristics (personal or interpersonal) are required to do what he wants effectively, i.e., tact, tolerance, patience, empathy, openness, etc.

Each general goal will have to be further defined and expanded for clarification, but only to the level of specificity that is useful and meaningful. If coping with the sheer magnitude of sub-objectives becomes a burden, such objectives are no longer useful.

The general goal can usually be clarified by answering the question: "What does this mean?" or better "What do I mean by this?" or perhaps still better, "What does this mean to me?" Essentially, the general goal statement names a particular universe of behavior, knowledge, etc. The expansion serves to describe the nature of that universe and to define its parameters. Sub-objectives serve to identify and define the various components of the universe.

These sub-objectives are very different from behavioral objectives. As opposed to identifying and defining components of the universe, behavioral objectives sample the universe. Thus from the total universe of behaviors, defined by the general goal, sample behaviors (indicators) are identified that hopefully will provide adequate evidence that the total universe of behaviors is available to the learner and will be exhibited when called for. The better the sampling procedure, the more likely this will be so. It is important to bear in mind that these are indicators, not objectives.

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*The relationship between 1 and 2 can usually be determined by asking, "Why do you want to know (or understand or appreciate)?" This will usually identify what he wants to be able to do with the knowledge. If the answer is "Because I find it interesting," however, his objective still should be considered legitimate and worthwhile.

An example might help to illustrate. A student or group of students might decide they would like to increase their appreciation of poetry. This, then, would be the general goal, but it would have to be expanded considerably for clarification. The students and teacher together might decide that this means:

- a better understanding of content (what the poem is saying)
- understanding why men write poetry
- understanding how poetry differs from other forms of writing
- understanding how form relates to content
- understanding why you would choose poetry over another form for expression
- understanding of the structure of poetry
- understanding of the problems of writing poetry
- familiarity with different styles of poetry
- writing some of my own poetry
- finding out what I like and don't like in poetry

None of these statements involve measurement, but they do define in general terms what I as the student, at this point in time, mean by appreciation of poetry, and they provide me with fairly clear direction. If this is a clear and meaningful goal for me, I am eager to get on with the learning activity. Each sub-objective and its relationship to the goal of appreciation can be defined further at this point or while I am actually engaged in the activity. My understanding of the goal should increase as I pursue each of the sub-objectives.

The success one has in overcoming the potential frustration or uncertainty associated with the vagueness of this course of action, is highly dependent upon the level of communication between the teacher and the learner. If sufficient agreements are achieved the problem disappears.

Enroute Objectives

In developing a learning program it is helpful to identify check points or enroute objectives, both as a guide in developing learning strategies and in assessing progress. With the approach suggested here, these also do not include a measurement component but are treated as objectives. Achievement of enroute objectives is treated separately, in statements of what will be used to indicate achievement.

For example, in developing an understanding of the structure of poetry, one might first want to be able to distinguish between rhyme, meter, and form before studying these three elements of structure separately. It would be necessary to have some understanding of each of these three areas apart and in combination before the student would be able to analyze the structure of a given poem. A much more detailed series of enroute objectives would be identified as one developed the learning program and sequenced the learning activities. Decisions would then be made regarding the specific indicators that would be used to assess achievement of the objectives.

Measurement

The measurement data provide the indicators (that is, the evidence that the objectives have been achieved), and would often be identical to what is usually called behavioral objectives. The measurement data for a given objective can be developed by asking the following questions:

1. What evidence am I willing to accept that the objective has been achieved? (What will happen, who will do what, under what conditions?)
2. How will this evidence (data) be obtained? (When? Where? By whom?)
3. How will the data be evaluated (measurement tools or techniques and criteria of performance)?

The guidelines provided by Mager and others for writing behavioral objectives, measurable objectives, instructional objectives, etc., can provide invaluable assistance in the development of effective measurement procedures, but it is necessary to keep in mind that most of what they call objectives we are treating as indicators.

In developing the measurement procedures, it should be recognized that an important source of assessment data is the self-assessment and verbal report of the student himself, particularly when dealing with internal states, behavior, or attitudes that are difficult to observe or measure (such as confidence, interest, comfort, motivation, enjoyment, etc). There would usually be some observable behavior that would confirm or deny the verbal statement, however, and provisions should be made for collection of data from sources other than the student's verbal report. In most instances it would be appropriate and perhaps even obligatory to confront the student with apparent lack of congruence between the verbal statement and exhibited behavior. This might be important feedback.

Some types of data can, of course, be best obtained from someone other than the student--the way something he does or produces comes across to others, for example. If these perceptions are related to his learning objectives, this feedback is very important.

Continuing with the goal of increasing appreciation of poetry, one would ask the three questions listed above to assess progress or achievement. For example, familiarity with different styles of poetry might be assessed in many ways; i.e., demonstrated in class discussions, or the student might write poems following given styles. If more precise measurement were necessary, acceptable evidence might take the behavioral objectives form: (Bear in mind that this is a measurement indicator, not an objective.)

Given ten excepts from poems representative of the styles of three different periods, the student will correctly match excerpt and period for at least eight of the ten examples.

Achieving a better understanding of content might be demonstrated by the student, for example, by:

- Stating in class discussion his interpretation of what a given poet was saying in three different poems. An acceptable interpretation would be determined by the agreement of the teacher and the majority of the class, or if not agreement, at least a recognition of the plausibility of the interpretation.

- Discussing, with the teacher or a small group of his peers, poems that are significant to him because of experiences in his own life that have helped him to interpret them. Accuracy of the interpretation would be determined by the agreement of the teacher or group.

The teacher might have a better understanding of a given poem than any of his students because of his familiarity with the work and life of that particular poet. The life experience each person brings to the poem is different, however, and each person will thus take away something different in terms of self-insight and understanding. If a student's life experience has been very different from that of the teacher, it may be impossible for the teacher to understand what the student has learned. Yet these insights may be important outcomes both in respect to the development of appreciation for poetry and the student's own self-concept. Self-assessment of personal learning should be provided for, therefore, whether communicated to and understood by the teacher or not.

Summary

Separating objectives and measurement offers the following advantages over the use of behavioral objectives:

1. Objectives can be expanded and defined as necessary for clarification, because they are not tied to a particular measurement

under restricted conditions.*

2. Objectives that have meaning for the future or that are based on student interest will quite probably be more appealing to students than will objectives that in reality are nothing but a test performance (indicator).

3. Measurements (indicators, test performance) are quite likely to be more meaningful and less aversive to students if they are perceived as providing data relative to the achievement of objectives related to their personal interests and life goals.

4. It is easier to see the relationship between the measurement and the objective if the measurement is identified as an indicator of achievement of the objective.

5. Objectives would not restrict the teacher or student in the selection of learning strategies or predispose him toward certain strategies as opposed to others.

6. More flexibility is allowed in measurement and fewer measurements would be required, because one measurement would not be required for each outcome, but more measurements could be taken for particular objectives if more were necessary to provide adequate evidence of achievement.

7. Opportunities for measurement can be capitalized on more easily, since both learning strategies and measurement are developed after objectives have been defined. Measurement decisions are not made prior to development of learning strategies, as they are with behavioral objectives.

CONCLUSION

A mistake often made in programs using behavioral objectives (and one that could be repeated with the approach suggested here) is failure to involve the student in establishing objectives, learning programs, and assessment procedures. The most effective learning/assessment program is one that the student participates in developing. Modifying Mager, (1968, p. vii), the student might use the following guide:

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*See H. H. McAshan, Writing Behavioral Objectives; A New Approach, New York: Harper & Row, 1970, for an attempt to improve the goal component of the behavioral objective statement.

1. Where am I going? (objectives)
2. How do I get there? (learning program)
3. How do I know I am making progress? (assessment against enroute objectives)
4. How do I know when I have arrived? (assessment against outcome objectives)

It is counterproductive to present the student with a comprehensive set of objectives and a complete educational program and assessment plan at the beginning of a course. At this point there is usually a vast gap between the understanding of the student and the teacher. What seems clear, concise, and well-organized to the teacher is very often beyond the comprehension of the student. The student cannot be expected to make a sudden leap to the level of understanding achieved through slow, incremental steps by the teacher. The student should not be expected to understand and accept the teacher's objectives for the course or his system of conceptualizing and organizing the course content.

This is not to say that the teacher should not be prepared. He should be well prepared. But no matter how much work has been done, it is better to reconstruct the process and involve the student if his understanding, acceptance, and commitment are desired. Considerable skill is required on the part of the teacher in working with the student to develop a set of objectives that are satisfactory and understandable to both. It should be understood that these objectives will be modified and refined as increased understanding is achieved. Allowance should be made for development of new objectives and modification of the curriculum as new discoveries are made and new interests develop.

The ideal would be self-initiated programs based on personal learning objectives. The teacher would then work with the student in the development of a learning program to achieve these objectives. It should be recognized,

of course, that the teacher has more experience in the design of programs and usually knows better than the student which activities or strategies have proven more effective than others in achieving given objectives. The student sometimes knows what works best for him, however, and learning to accept the responsibility for his own learning should be a major goal of education (including learning from mistakes and accepting the consequences of undesirable outcomes).

The student should also be involved in the development of assessment plans and procedures, identifying evidence he and the teacher would be willing to accept that given objectives had been achieved. He should then participate in the collection and analysis of the assessment data and in decisions made on the basis of this analysis.

The assessment should allow for serendipity--unanticipated and unplanned outcomes. What did I discover that I did not expect to discover? What new awareness, insight, or understanding did I achieve? What new leads does this give me? What new interests have I developed? What have I learned about myself? Herein lies much of the excitement and value of learning.

Involvement in the total educational process as an active participant not only facilitates achievement of planned and unplanned objectives, but results in the incidental learning of the process itself and in a by-product of self-esteem and self-confidence. The student is thus learning how to learn, an outcome that is essential in today's rapidly changing world. Learning itself becomes a rewarding, self-enhancing process, something to seek and to enjoy rather than something to avoid.

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